



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: )  
HOBBS, Steven E. et al. )  
Title: **HIGH THROUGHPUT SYSTEMS** ) Group Art Unit: [not yet assigned]  
**AND METHODS FOR PARALLEL** )  
**SAMPLE ANALYSIS** ) Examiner: [not yet assigned]  
Serial Number: 10/736,154 ) Attorney Docket: 133-US  
Filed: December 13, 2003 )

**SUPPLEMENTAL IDS TRANSMITTAL**

Mail Stop Non-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are the following documents for the above-identified application:

- Transmittal Letter (1 page)
- Information Disclosure Statement (1 page)
- Form PTO-1449 (4 pages)
- Non-U.S. Cited References (44 documents)
- Return Postcard

Applicants have not yet received a first office action on the merits in the above-referenced application, and therefore Applicants believe that no fee is due pursuant to 37 CFR § 1.97(b). If Applicants' belief is incorrect, please charge any necessary fees to our deposit account number 502454.

Respectfully submitted,

Vincent K. Gustafson  
Reg. No. 46,182

Dated: January 7, 2004

**USPTO Customer No.: 32763**

CERTIFICATE OF MAILING  
(37 C.F.R. § 1.8)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient first class postage in an envelope addressed to Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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INFORMATION DISCLOSURE STATEMENT

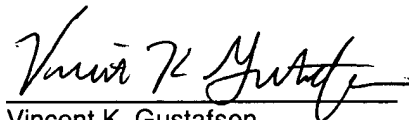
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P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR §§ 1.97 and 1.98, the items identified in this Information Disclosure Statement ("IDS") are brought to the attention of the Office. The items are listed on the attached form PTO-1449 and copies of only the "Foreign Patent Documents" and "Other Documents" are enclosed for the convenience of the Examiner. Copies of the "U.S. Patent Documents" are not enclosed pursuant to the notice dated July 11, 2003 from the Office of Patent Legal Administration (appearing on the "News & Notices" section of the USPTO website) waiving the requirement to supply such citations in applications filed after June 30, 2003. If, however, the Examiner would find it helpful to have the U.S. citations, Applicants will supply them at the request of the Examiner.

The items identified in this IDS may or may not be "material" pursuant to 37 CFR § 1.56. The submission thereof by Applicants is not to be construed that any such patent, publication, or other information referred to therein is material or considered to be material (37 CFR § 1.97(h)), or even qualifies as "prior art" under 35 USC § 102 with respect to this invention unless specifically designated by Applicants as such.

Respectfully submitted,

  
Vincent K. Gustafson  
Reg. No. 46,182

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LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S  
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## APPLICANT:

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## GROUP:

[not yet assigned]

JAN 09 2004

## U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
A1	2003/0200794 A1	10/30/2003	Paul	73	54.05	4/28/2003
A2	6,614,030 B2	9/2/2003	Maher et al.	250	458.1	5/15/2002
A3	6,613,581 B1	9/2/2003	Wada et al.	436	518	8/17/2000
A4	2003/0162304 A1	8/28/2003	Dority et al.	436	180	2/25/2002
A5	6,581,441 B1	6/24/2003	Paul	73	61.52	6/24/2003
A6	2003/0089846 A1	5/15/2003	Cooks et al.	250	281	5/25/2000
A7	2003/0089663 A1	5/15/2003	Petro et al.	210	656	8/28/2002
A8	6,547,941 B2	4/15/2003	Kopf-Sill et al.	204	452	7/31/2001
A9	6,532,978 B1	3/18/2003	Müller-Kuhrt et al.	137	1	11/22/1999
A10	2002/0199094 A1	12/26/2002	Strand et al.	713	150	12/27/2001
A11	2002/0189947 A1	12/19/2002	Paul et al.	204	461	8/29/2001
A12	2002/0158022 A1	10/31/2002	Huang et al.	210	656	4/5/2002
A13	6,437,345 B1	8/20/2002	Bruno-Raimondi et al.	250	458.1	11/14/2000
A14	6,410,915 B1	6/25/2002	Bateman et al.	250	288	6/17/1999
A15	2002/0068366 A1	6/6/2002	LaDine et al.	436	518	4/13/2001
A16	2002/0041827 A1	4/11/2002	Yager et al.	422	57	5/22/2001
A17	6,369,893 B1	4/9/2002	Christel et al.	356	417	5/19/1999
A18	2002/0036018 A1	3/28/2002	McNeely et al.	137	806	9/27/2001
A19	2002/0027197 A1	3/7/2002	Duholke et al.	250	288	6/5/2001
A20	6,318,157 B1	11/20/2001	Corso et al.	73	61.52	4/20/2000
A21	6,296,771 B1	10/2/2001	Miroslav	210	656	10/1/1999
A22	6,264,892 B1	7/24/2001	Kaltenbach et al.	422	68.1	1/11/2000
A23	6,191,418 B1	2/20/2001	Hindsgaul et al.	250	288	4/29/1998

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133-US

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Use several sheets if necessary)

JAN 09 2004

## U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
A24	6,066,848	5/23/2000	Kassel et al.	250	288	11/3/1998
A25	6,012,488	1/11/2000	Nichols	137	625.11	9/17/1998
A26	5,917,184	6/29/1999	Carson et al.	250	288	2/7/1997
A27	5,872,010	2/16/1999	Karger et al.	436	173	7/3/1996
A28	5,071,547	12/10/1991	Cazer et al.	210	198.2	3/23/1990
A29	4,840,074	6/30/1989	Jessop	73	864.81	3/31/1988
A30	4,507,555	3/26/1985	Chang	250	281	3/4/1983

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	NAME	TRANSLATION? YES NO
B1	WO 02/30486 A2	4/18/2002	WIPO	Manager et al.	
B2	EP 1 106 244 A2	6/13/2001	EPC	Bergh et al.	
B3	WO 01/38865 A1	5/31/2001	WIPO	Harrison et al.	
B4	WO 00/72970 A1	12/7/2000	WIPO	Petersen et al.	
B5	WO 98/35376	8/13/1998	WIPO	Tai et al.	
B6	WO 98/09315	3/5/1998	WIPO	Hewlett-Packard Company	

EXAMINER  
INITIALS

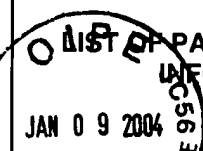
## NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

C1	"Multi-Parallel-HPLC," Web document published at: <a href="http://www.sepiatec.com/download/phplc.pdf">http://www.sepiatec.com/download/phplc.pdf</a> , SEPIAtec GmbH, Louis-Blériot-Strasse 5 D-12487 Berlin Germany.
C2	Figeys, Daniel et al., <i>Lab-on-a-Chip: A Revolution in Biological and Medical Sciences</i> , "Analytical Chemistry," May, 1, 2000
C3	Wachs, Timothy et al., <i>Electrospray Device for Coupling Microscale Separations and Other Miniaturized Devices with Electrospray Mass Spectrometry</i> , "Analytical Chemistry," Vol. 73, No. 3, February 1, 2001, pp. 632-638
C4	Morrison, Denise et al., <i>An Evaluation of a Four-Channel Multiplexed Electrospray Tandem Mass Spectrometry for Higher Throughput Quantitative Analysis</i> , "Analytical Chemistry," Vol. 74, No. 8, April 15, 2002, pp. 1896-1902
C5	Figeys, Daniel et al., <i>An Integrated Microfluidics-Tandem Mass Spectrometry System for Automated Protein Analysis</i> , "Analytical Chemistry," Vol. 70, No. 18, September 15, 1998, pp. 3728-3724

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FORM PTO-1449		ATTY. DOCKET NO. 133-US	SERIAL NO. 10/736,154
 <b>LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b> (Us several sheets if necessary)		<b>APPLICANT:</b> HOBBS, Steven E. et al.	
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INITIALS	NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)	
	C6	Xue, Qifeng et al., <i>Multichannel Microchip Electrospray Mass Spectrometry</i> , "Analytical Chemistry," Vol. 69, No. 3, February 1, 1997, pp. 426-430
	C7	Wagner, Knut et al., <i>An Automated On-Line Multidimensional HPLC System for Protein and Peptide Mapping with Integrated Sample Preparation</i> , "Analytical Chemistry," Vol. 74, No. 4, February 15, 2002, pp. 809-820
	C8	Xu, Rongda et al., <i>Application of Parallel Liquid Chromatography/Mass Spectrometry for High Throughput Microsomal Stability Screening of Compound Libraries</i> , "Journal of the American Society for Mass Spectrometry," 2002, 13, 155-165
	C9	Van Pelt, Colleen K. et al., <i>A Four-Column Parallel Chromatography System for Isocratic or Gradient LC/MS Analyses</i> , "Analytical Chemistry," Vol. 73, No. 3, February 1, 2001, pp. 582-588
	C10	Janiszewski, John S. et al., <i>A High-Capacity LC/MS System for the Bioanalysis of Samples Generated from Plate-Based Metabolic Screening</i> , "Analytical Chemistry," Vol. 73, No. 7, April 1, 2001, pp. 1495-1501
	C11	Zhang, Bailin et al., <i>High-Throughput Microfabricated CE/ESI-MS: Automated Sampling from a Microwell Plate</i> , "Analytical Chemistry," Vol. 73, No. 11, June 1, 2001, pp. 2675-2681
	C12	Tang, Keqi et al., <i>Generation of Multiple Electrosprays Using Microfabricated Emitter Arrays for Improved Mass Spectrometric Sensitivity</i> , "Analytical Chemistry," Vol. 73, No. 8, April 15, 2001, pp. 1658-1663
	C13	Liu, Hanghui et al., <i>Development of Multichannel Devices with an Array of Electrospray Tips for High-Throughput Mass Spectrometry</i> , "Analytical Chemistry," Vol. 72, No. 14, July 15, 2000, pp. 3303-3310
	C14	Yang, Liyu et al., <i>Evaluation of a Four-Channel Multiplexed Electrospray Triple Quadrupole Mass Spectrometer for the Simultaneous Validation of LC/MS/MS Methods in Four Different Preclinical Matrixes</i> , "Analytical Chemistry," Vol. 73, No. 8, April 15, 2001, pp. 1740-1747
	C15	"LCT with MUX-technology," Internet document from <a href="http://www.micromass.co.uk/systems/sysorg22.asp">www.micromass.co.uk/systems/sysorg22.asp</a> , Printed 7/19/2002, date of origin unknown
	C16	Xu, Rongda et al., <i>High-Throughput Mass-Directed Parallel Purification Incorporating a Multiplexed Single Quadrupole Mass Spectrometer</i> , "Analytical Chemistry," Vol. 74, No. 13, July 1, 2002, pp. 3055-3062
	C17	Fang, Liling et al., <i>High-throughput liquid chromatography ultraviolet/mass spectrometric analysis of combinatorial libraries using an eight-channel multiplexed electrospray time-of-flight mass spectrometer</i> , "Rapid Communications in Mass Spectrometry," 2002, 16, 1440-1447
	C18	Rohrbacher, Andreas et al., <i>Multiple-ion-beam time-of-flight mass spectrometer</i> , Review of Scientific Instruments," Volume 72, Number 8, August 2001,
	C19	Abian, J., <i>The Coupling of Gas and Liquid Chromatography with Mass Spectrometry</i> , "Journal of Mass Spectrometry," 34, 157-168, (1999)
	C20	"HPLC: Micro LC/MS Analysis of Biological Samples," Web publication; <a href="http://www.sge.com">http://www.sge.com</a> , 4/1/1998
	C21	Kameoka, Jun et al., <i>A Polymeric Microfluidic Chip for CE/MS Determination of Small Molecules</i> , "Analytical Chemistry," Vol. 73, No. 9, May 1, 2001, pp. 1935-1941
	C22	Yin, Hongfeng et al., "A polymeric microfluidic device with integrated mass-spectrometer interface," Web publication, 2002
	C23	Kim, Young Chan et al., "Rapid Sample Cleanup Microchip for Protein Analysis by Electrospray Ionization Mass Spectrometry," <i>Micro Total Analysis Systems</i> , J.M. Ramsey and A. van den Berg (eds.), 2001, Kluwer Academic Publishers, the Netherlands, pp. 123-124
	C24	Lazar, Iulia M. et al., "Microchip Integrated Analysis System for Electrospray Mass Spectrometric Analysis of Complex Peptide Mixtures," <i>Micro Total Analysis Systems</i> , J.M. Ramsey and A. van den Berg, (eds.), 2001, Kluwer Academic Publishers, the Netherlands, pp. 219-221
	C25	Killeen, Kevin et al., "Chip-MS: A Polymeric Microfluidic Device with Integrated Mass-Spectrometer Interface," <i>Micro Total Analysis Systems</i> , J.M. Ramsey and A. van den Berg (eds.), 2001, Kluwer Academic Publishers, the Netherlands, pp. 331-332

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EXAMINER INITIALS	NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)	
	C26	Svedberg, Malin et al., "Electrospray from a Plastic Chip," <i>Micro Total Analysis Systems</i> , J.M. Ramsey and A. van den Berg (eds.), 2001, Kluwer Academic Publishers, the Netherlands, pp. 335-336
	C27	Jiang, Yun et al., <i>Integrated Plastic Microfluidic Devices with ESI-MS for Drug Screening and Residue Analysis</i> , "Analytical Chemistry," Vol. 73, No. 9, May 1, 2001, pp. 2048-2053
	C28	Zweigenbaum, Jerry et al., <i>High-Throughput Bioanalytical LC/MS/MS Determination of Benzodiazepines in Human Urine: 1000 Samples per 12 Hours</i> , "Analytical Chemistry," Vol. 71, No. 13, July 1, 1999, pp. 2294-2300
	C29	Liu H. et al., "A 96-Channel Microdevice for High Throughput Electrospray Ionization Mass Spectrometry (ESI/MS)," Web document published at: <a href="http://www.geocities.com/ResearchTriangle/Lab/4688/ht-ms.html">http://www.geocities.com/ResearchTriangle/Lab/4688/ht-ms.html</a> , 6/9/1998
	C30	God, Ralf et al., "Using multiparallel HPLC for purification in drug discovery from nature," Web document published at: <a href="http://www.iscpubs.com/articles/aln/n0112god.pdf">http://www.iscpubs.com/articles/aln/n0112god.pdf</a> , 12/1/2001
	C31	Li, Jianjun et al., <i>Integrated system for high-throughput protein identification using a microfabricated device coupled to capillary electrophoresis/nanoelectrospray mass spectrometry</i> , "Proteomics," 2001, 1, 975-986
	C32	Zhang, B. et al., <i>Microfabricated Devices for Capillary Electrophoresis-Electrospray Mass Spectrometry</i> , "Analytical Chemistry," Vol. 71, No. 15, August 1, 1999, pp. 3258-3264
	C33	Moore, Roger E. et al., <i>A Microscale Electrospray Interface Incorporating a Monolithic, Poly(styrene-divinylbenzene) Support for On-Line Liquid Chromatography/Tandem Mass Spectrometry Analysis of Peptides and Proteins</i> , "Analytical Chemistry," Vol. 70, No. 23, December 1, 1998, pp. 4879-4884
	C34	Little, David et al., "A Parallel LC-MS/MS System for High Throughput Quantification in Drug Discovery," Micromass Application Note 248, May 2000
	C35	Dunn, John A. et al., "A Parallel LC/MS/MS System for the High Throughput Quantification of Clinical Trial Samples. A Validation Study," Waters/Micromass Application Note, October 2002
	C36	Tan, Aimin et al., <i>Chip-Based Solid-Phase Extraction Pretreatment for Direct Electrospray Mass Spectrometry Analysis Using an Array of Monolithic Columns in a Polymeric Substrate</i> , "Analytical Chemistry," Vol. 75, No. 20, October 15, 2003, pp. 5504-5511
	C37	Lin, Yuehe et al., "Microfluidic Devices on Polymer Substrates for Bioanalytical Applications," Web document published at: <a href="http://www.pnl.gov/microcats/aboutus/publications/microchemical/Microtechpresentation.pdf">www.pnl.gov/microcats/aboutus/publications/microchemical/Microtechpresentation.pdf</a> , 1999
	C38	Manz, Andreas et al., <i>Miniaturization of Separation Techniques Using Planar Chip Technology</i> , "Journal of High Resolution Chromatography," Vol. 16, July 1993

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